

vergentibus; pedunculis numerosis umbellatis 5--13.5 cm. longis glabris flavidisque sed apicem versus sparse glanduloso-pilosis; vaginis anguste cylindricis 1--1.5 cm. longis densiuscule pilosis; capitulis hemisphaericis 5 mm. latis; bracteolis involucri stramineo-brunneis oblanceolatis glabris.

Small annual herb; basal leaves very numerous, cespitose, rosulate, very small, 3--5 mm. long, 0.5 mm. wide or less, linear, conspicuously recurved to the ground, pilosulous, acute; branches usually only 1 per plant, erect, brownish-black, filiform, 6--7 cm. long, terete, not twisted nor sulcate, glabrous, shiny; upper leaves terminating the branch, in a whorl of 16--20, unequal in length, 5--10 mm. long, narrowly linear or filiform, straight, rather stiff, divergent, irregularly glandular-pilose; peduncles in a terminal umbel of up to 25, erect or divergent-ascending, 5--13.5 cm. long, yellowish, glabrous except toward the apex where there are scattered capitate-glandular divergent hairs; sheaths narrowly cylindric, closely appressed to the peduncle, 1--1.5 cm. long, rather densely pilose, split at the apex, the blade lanceolate, erect, about 2 mm. long, pilose; heads hemispheric, about 5 mm. wide; involucrel bractlets oblanceolate, brownish-stramineous, glabrous; for further floral details see the accompanying illustration drawn by Charles C. Clare, Jr., in November, 1975: Fig. 2. A - Habit; B - Flower-head; C - Involucrel bractlet; D - Receptacular bractlet; E - Staminate floret; F - Sepals of staminate floret; G - Staminate floret with sepals removed; H - Pistillate floret; J - Pistillate floret, showing style-branches and stigmas; K - Gynoecium; L - Petal of pistillate floret.

The type of this interesting species was collected by Gert Hatschbach (no. 36804) on a sandy campo at "Rod. GO-12, km 5-10 a Sul de Alto Paraíso", Goiás, Brazil, on May 24, 1975, and is deposited in my personal herbarium at Plainfield, New Jersey.

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ADDITIONAL NOTES ON THE ERIOCAULACEAE. LVIII

Harold N. Moldenke

ERIOCAULACEAE Lindl.

Additional bibliography: Körn. in Warm., Vidensk. Meddel. Nat. Foren. Kjøbenhavn. 23: [309]--315. 1871; Fedde in Just, Bot. Jahresber. 46 (2): 596, 624, 651, & 810. 1929; Moldenke, Phytologia 32: 458--470. 1975.

It should be noted here that Fedde (1929) refers to page "827" in his work as mentioning Eriocaulon, but I fail to find any reference to this genus, nor to the family, on this page.

## ERIOCAULON Gron.

Additional bibliography: Schnitzl., Iconogr. 1: pl. 46, fig. 1--7. 1845; Fedde in Just, Bot. Jahresber. 46 (2): 596. 1929; Moldenke, Phytologia 32: 461--470. 1975.

Fedde (1929) asserts that there is a reference to this genus on page "827" of his cited work, but I fail to find it there.

## ERIOCAULON DALZELLII Körn.

Additional bibliography: Woodr., Journ. Bomb. Nat. 13: 429. 1901; Cooke, Fl. Presid. Bombay, ed. 1, 2: 841 & 843 (1908), ed. 2, imp. 1, 3: 353 & 355 (1958), and ed. 2, imp. 2, 3: 353 & 355. 1967; Moldenke, Phytologia 29: 106, 197, & 283 (1974) and 32: 468. 1975.

Cooke (1908) cites only Dalzell s.n. and Stocks s.n. from Bombay, "in streams", flowering from October to December, and gives the overall distribution as "India (W. Peninsula)". He comments that "The specific name rivulare originally given to the plant by Dalzell (1851) was changed into Dalzellii by Koernicke (l.c.) on account of the name rivulare having been pre-occupied by Don (1849). But Don's plant is now E. latifolium, Smith (1809), so that Dalzell's name has been restored." This action, however, is not in accord with the present edition of the International Code, so Körnicke's name is again being adopted by me.

The T. Koyama 13516, previously cited by me as E. dalzellii, seems better placed as E. ceylanicum Körn.

Additional citations: INDIA: Maharashtra: Vartak RD.19 (Z).

## ERIOCAULON DECANGULARE L.

Additional synonymy: Randiala americana procerior Petiv. apud Lam., Encycl. Méth. Bot. 3: 276, in syn. 1789. Globulariae affinis aquatica, caule tenui aphylo gramineo, capitulis albicantibus parvis globosis, foliis paucis humistratis gramineis Gron. apud Lam., Encycl. Méth. Bot. 3: 276, in syn. 1789. Eriocaulon culmo decangulari, foliis longis laevibus erectis Walt. apud Lam., Encycl. Méth. Bot. 3: 276, in syn. 1789. Eriocaulon noveboracense, capitulo alba globoso s. Globularia americana statures haud absimilis, cauliculis lana atro-rubente refertis Pluk. apud Lam., Encycl. Méth. Bot. 3: 276, in syn. 1789. Eriocaulon culmo striato longissimo, foliis ensiformibus brevibus prostratis, capitulo globoso Lam., Encycl. Méth. Bot. 3: 276. 1789.

Additional bibliography: Michx., Fl. Bor.-Am., ed. 1, imp. 1, 2: 165 (1803), ed. 2, 2: 165 (1820), and ed. 1, imp. 2, 2 [Ewan, Class. Bot. Am. 3]: 165. 1974; Moldenke, Phytologia 29: 283 (1974), 30: 57 (1975), and 31: 375 & 376. 1975; D. S. & H. B. Correll, Aquat. & Wetland Pl. SW. U. S., imp. 2, 1: [589] & 590, fig. 301 (1975) and imp. 2, 2: 1751. 1975; Duncan & Foote, Wildfls. SE. U. S. 240, [241], 286, & 287. 1975.

Additional illustrations: Duncan & Foote, Wildfls. SE. U. S. [241] (in color). 1975.

The illustration given by the Corrells (1975), purporting to represent the typical form of this species, seems, rather, to be of f. parviceps Moldenke.

It is worth mentioning here that the involucre bractlets on Moldenke & Moldenke 29949 are conspicuously long-pilose!

Lamarck (1789) calls this species "joncinelle décangulaire" and "joncinelle tardivo".

Additional citations: NEW JERSEY: Burlington Co.: Moldenke & Moldenke 29139 (M, Sl, W). GEORGIA: Bulloch Co.: Moldenke & Moldenke 29949 (Gz). Jekyll Island: Moldenke & Moldenke 29883 (Gz). FLORIDA: Levy Co.: Moldenke & Moldenke 29458 (Id, Tu). Nassau Co.: Moldenke & Moldenke 29866 (Ld).

#### ERIOCAULON DECANGULARE f. PARVICEPS Moldenke

Additional bibliography: Moldenke, *Phytologia* 29: 283. 1974; D. S. & H. B. Correll, *Aquat. & Wetland Pl. SW. U. S.*, imp. 2, 1: [589], fig. 301. 1975.

Additional illustrations: D. S. & H. B. Correll, *Aquat. & Wetland Pl. SW. U. S.*, imp. 2, 1: [589], fig. 301 [as E. decangulare]. 1975.

Additional citations: NICARAGUA: Cabo Gracias a Dios: Bunting & Licht 438 (W--2542882).

#### ERIOCAULON DEIGHTOMII Meikle

Additional bibliography: Moldenke, *Phytologia* 26: 458. 1973; Heslop-Harrison, *Ind. Kew. Suppl.* 15: 51. 1974.

#### ERIOCAULON DEPRESSUM R. Br. ex J. E. Sm. in Rees, *Cyclop.* 13: Eriocaulon. 1809.

Additional bibliography: Moldenke, *Phytologia* 29: 194. 1974; Heslop-Harrison, *Ind. Kew. Suppl.* 15: 51. 1974.

#### ERIOCAULON DIANAE Fyson

Additional bibliography: Malhotra & Moorthy, *Bull. Bot. Surv. India* 13: 314. 1971; Moldenke, *Phytologia* 29: 194 & 236. 1974.

Malhotra & Moorthy (1971) cite their nos. 122480, 123257, & 123507.

The Vartak RD.8 & RD.11, distributed as typical E. dianae, seem better placed as var. longibracteatum Fyson, while RD.5 & RD.6 are better regarded as representing var. richardianum Fyson.

Additional citations: INDIA: Maharashtra: Vartak RD.4 (Z), RD.7 (Z), RD.9 (Ac), RD.10 (Z).

#### ERIOCAULON DIANAE var. LONGIBRACTEATUM Fyson

Additional bibliography: Moldenke, *Phytologia* 29: 194. 1974.

Additional citations: INDIA: Maharashtra: Vartak RD.8 (Ac), RD.11 (Ac).

## ERIOCAULON DIANAE var. RICHARDIANUM Fyson

Additional bibliography: Moldenke, *Phytologia* 29: 194. 1974.

Material of this variety has been distributed in some herbaria as typical E. dianae Fyson.

Additional citations: INDIA: Maharashtra: Vartak RD.5 (Z), RD.6 (Z).

## ERIOCAULON DIOECUM Ruhl.

Additional bibliography: León & Alain, *Fl. Cuba*, imp. 2, 1: 280 & 423. 1974; Moldenke, *Phytologia* 29: 283. 1974.

## ERIOCAULON EBERHARDTII H. Lecomte

Additional bibliography: Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 136 & 204. 1949; Moldenke, *Phytologia* 26: 23. 1973.

## ERIOCAULON ECHINOSPERMOIDEUM Ruhl.

Additional bibliography: Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 43 & 204. 1949; Moldenke, *Phytologia* 24: 358. 1972; León & Alain, *Fl. Cuba*, imp. 2, 1: 281 & 423. 1974.

## ERIOCAULON ECHINOSPERMUM C. Wright

Additional bibliography: León & Alain, *Fl. Cuba*, imp. 2, 1: 279—280 & 423. 1974; Moldenke, *Phytologia* 29: 283 (1974) and 31: 397. 1975.

Ekman encountered this plant in mud at the edge of water of small lakes in pinelands, flowering in March, and fruiting in November. The United States National Herbarium specimen of what appears to be an isotype has its label "corrected" by someone to "3237" and to "3238", but obviously in error. The specimen on the sheet seems definitely to be part of Wright's no. 3738 collection.

Additional citations: CUBA: Pinar del Río: Ekman 18127 (W—1302883), 18767 (W—1302004); C. Wright 3738 (W—936259—isotype).

## ERIOCAULON ECHINULATUM Mart.

Additional bibliography: Dunn & Tutchter, *Kew Bull. Misc. Inf. Addit. Ser.* 10: 291 & 292. 1912; Moldenke, *Phytologia* 29: 195. 1974.

## ERIOCAULON EHRENBERGIANUM Klotzsch

Additional synonymy: Eriocaulon ehrenbergianum "Klotzsch ex Koern." apud Molina R., *Ceiba* 19: 24. 1975. Eriocaulon ehrenbergianum Körner ex Moldenke, *Phytologia* 31: 397, in syn. 1975.

Additional bibliography: Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 30, 35, & 204. 1949; Moldenke, *Phytologia* 24: 358 (1972), 31: 397 (1975), and 32: 465. 1975; Molina R., *Ceiba* 19: 24. 1975.

Recent collectors describe the flower-heads of this species as white and have found the plant growing "on open marsh plains", in springy bogs, and in the pine-oak zone at 1450 m. altitude, where

it was abundant in the sedge mats near streams, flowering in June, July, and November, and fruiting in June and July. Schaffner 226 is a mixture with E. microcephalum H.B.K.

Additional citations: MEXICO: Chihuahua: Townsend & Barber 117 (W--347044, W--568113). Federal District: F. Salazar s.n. [Xochimilco, Nov. 1912] (W--1014287). Hidalgo: Pringle 8989 (W--461460). Jalisco: Edw. Palmer 44 (W--45263, W--937154). México: Denton 1912 (Mi); Schaffner 226, in part (W--397194). GUATEMALA: Chimaltenango: Skutch 617 (W--1587618).

#### ERIOCAULON EKMANNII Ruhl.

Additional bibliography: Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 43 & 204. 1949; Moldenke, *Phytologia* 24: 358. 1972; León & Alain, *Fl. Cuba*, imp. 2, 1: 280--281 & 423. 1974.

#### ERIOCAULON ELENORAE Fyson

Additional bibliography: Moldenke, *Phytologia* 29: 196. 1974; Shah & Yogi, *Journ. Bombay Nat. Hist. Soc.* 71: 62. 1974.

Additional citations: INDIA: Maharashtra: Vartak RD.12 (Z).

#### ERIOCAULON ENSIFORME C. E. C. Fischer

Additional bibliography: Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 126 & 204. 1949; Vajravelu & Joseph, *Bull. Bot. Surv. India* 13: 271. 1971; Moldenke, *Phytologia* 26: 23--24. 1973.

Vajravelu & Joseph (1971) describe this plant as a "Common herb in marshy places with long ensiform leaves, peduncles solitary, very long, heads ashy" and cite their no. 15562 from Coimbatore, India.

#### ERIOCAULON EPAPILLOSUM Ruhl.

Additional bibliography: Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 76 & 204. 1949; Moldenke, *Phytologia* 24: 458. 1972.

#### ERIOCAULON ESCAPE Hansen

Additional bibliography: Heslop-Harrison, *Ind. Kew. Suppl.* 15: 51. 1974; Moldenke, *Phytologia* 29: 196. 1974.

#### ERIOCAULON EURYPELON Körn.

Additional bibliography: Cooke, *Fl. Presid. Bombay*, ed. 1, 2: 851. 1908; Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 126 & 204. 1949; Cooke, *Fl. Presid. Bombay*, ed. 2, imp. 1, 3: 363--364 (1958) and ed. 2, imp. 2, 3: 363--364. 1967; Moldenke, *Phytologia* 24: 459. 1972.

Cooke (1908) says "Koernicke gives 'East Indies' as the habitat of the plant which is stated to have been collected by Huegel no. 1886 (Hb. Vindob. et Zuccarini), no precise locality having been mentioned. Ruhland....gives East Indies, Malabar, Konkan, &c. as the habitat, and Stocks, Huegel, &c. as the collectors, but there is no mention of the whereabouts of the specimens said to have been collected by Stocks. None of these are to be found

in Herb. Kew., and as Stocks almost invariably sent his collections to the Kew Herbarium, I think it probable that Ruhland has made a mistake in his citation. There is, as far as I know, no evidence of the existence of the species in the Bombay Presidency." On the contrary, I have seen a specimen of Stocks, Law, &c. s.n. from "Malabar, Concan &c." in the Berlin herbarium and have one in my personal herbarium.

#### ERIOCAULON FABERI Ruhl.

Additional bibliography: Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 132 & 204. 1949; Moldenke, *Phytologia* 24: 459. 1972.

#### ERIOCAULON FISTULOSUM R. Br. ex J. E. Sm. in Rees, *Cyclop.* 13: Eriocaulon. 1809.

Additional bibliography: Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 153 & 204. 1949; Moldenke, *Phytologia* 24: 459. 1972; Heslop-Harrison, *Ind. Kew. Suppl.* 15: 51. 1974.

#### ERIOCAULON FLUVIATILE Trimen

Additional bibliography: Moldenke, *Phytologia* 29: 196—197 & 227 (1974) and 31: 390. 1975.

Hu describes what appears to be this species as a "very delicate herb" and encountered it in an abandoned ricefield, flowering and fruiting in August, and identified it as E. setaceum L. He also found it growing in "shade, on rock of a stream, flowers white", in anthesis in November. Vartak refers to it as growing in "liquid mud".

Additional citations: INDIA: Maharashtra: Vartak RD.14 (Z). SRI LANKA: Bogner 568 (Mu); Moldenke, Moldenke, Jayasuriya, & Sumithraarachchi 28279 (W--2765387), 28281 (W--2765385), 28292 (W--2765402). HONG KONG: S. Y. Hu 8529 (W--2675884), 10873 (W--2730973).

#### ERIOCAULON FRIESIORUM Bullock

Additional bibliography: Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 118 & 204. 1949; Moldenke, *Phytologia* 26: 24. 1973.

#### ERIOCAULON FULIGINOSUM C. Wright

Additional bibliography: León & Alain, *Fl. Cuba, imp.* 2, 1: 280 & 423. 1974; Moldenke, *Phytologia* 29: 283 (1974), 30: 35 (1975), and 31: 397 & 398. 1975.

Ekman found this species growing in moist places in pineland savannas. In addition to the months previously reported, it has been collected in anthesis in April and December and in fruit in April, September, October, and December. Material has been misidentified and distributed in some herbaria as E. schiedeanum Körn. On the other hand, the Britton, Britton, & Wilson 15008, distributed as E. fuliginosum, is actually E. pinarense Ruhl.

Additional citations: CUBA: Las Villas: Combe 588 (W--1515676).  
 Oriente: Acuña 12379 (W--1880969). Pinar del Río: Ekman 17864  
 (W--1301997). BELIZE: Gentle 993 (W--1588375).

ERIOCAULON FULVUM N. E. Br.

Additional bibliography: H. Leconte, Bull. Soc. Bot. France  
 55: 601. 1909; Moldenke, Phytologia 29: 197. 1974.

ERIOCAULON FUSIFORME Britton & Small

Additional bibliography: Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 45 & 204. 1949; Moldenke, Phytologia 24: 460. 1972; León & Alain, Fl. Cuba, imp. 2, 1: 280 & 423. 1974.

ERIOCAULON GAMBLEI C. E. C. Fischer

Additional bibliography: Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 126 & 204. 1949; Moldenke, Phytologia 26: 24. 1973; Mani, Ecol. & Biogeogr. India [Illies, Monog. Biolog. 23:] 187 & 741. 1974.

ERIOCAULON GIBBOSUM Körn.

Additional bibliography: Moldenke, Phytologia 29: 197 (1974) and 30: 37. 1975.

Malme (1901) cites Malme 1572 & 1572\* from Mato Grosso, Brazil. His work is sometimes erroneously cited as "1903".

ERIOCAULON GLAUCUM W. Griff.

Additional bibliography: Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 129 & 204. 1949; Moldenke, Phytologia 24: 461. 1972.

ERIOCAULON GLAZIOVII Ruhl.

Additional bibliography: Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 76 & 204. 1949; Moldenke, Phytologia 24: 461. 1972.

ERIOCAULON GRAPHITINUM F. Muell. & Tate

Additional bibliography: Wangerin in Just, Bot. Jahresber. 46 (1): 402. 1925; Fedde in Just, Bot. Jahresber. 46 (2): 596. 1929; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 153 & 204. 1949; Moldenke, Phytologia 24: 461. 1972.

ERIOCAULON GUADALAJARENSE Ruhl.

Additional bibliography: Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 30 & 204. 1949; Moldenke, Phytologia 26: 25. 1973.  
 Pringle found this plant growing in "wet places", flowering and fruiting in November.

Additional citations: MEXICO: Jalisco: Pringle 1734 (W--937153-isotype).

ERIOCAULON GUYANENSE Körn.

Additional bibliography: Moldenke, Known Geogr. Distrib. Ver-

benac., [ed. 2], 63, 66, 68, & 204. 1949; Moldenke, *Phytologia* 24: 461. 1972.

*ERIOCAULON HAMILTONIANUM* Mart.

Additional bibliography: Moldenke, *Phytologia* 29: 198--199. 1974.

The *Vartak* RD.30, distributed as *E. hamiltonianum*, seems actually to be *E. humile* Moldenke.

*ERIOCAULON HANANOEGOENSE* Masamune

Additional bibliography: Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 134 & 204. 1949; Moldenke, *Phytologia* 24: 462. 1972.

*ERIOCAULON HELEOCHARIOIDES* Satake

Additional bibliography: Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 134 & 204. 1949; Moldenke, *Phytologia* 24: 462. 1972.

*ERIOCAULON HERZOGII* Moldenke

Additional bibliography: Moldenke, *Phytologia* 26: 25. 1973; Heslop-Harrison, *Ind. Kew. Suppl.* 15: 51. 1974.

*ERIOCAULON HETERODOXUM* Moldenke

Additional bibliography: Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 66 & 204. 1949; Moldenke, *Phytologia* 24: 463. 1972.

*ERIOCAULON HETEROGYNUM* F. Muell.

Additional bibliography: Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 153 & 204. 1949; Moldenke, *Phytologia* 24: 463. 1972.

*ERIOCAULON HETEROLEPIS* Steud.

Additional bibliography: Cooke, *Fl. Presid. Bombay*, ed. 1, 2: 851 (1908), ed. 2, imp. 1, 3: 363 (1958), and ed. 2, imp. 2, 3: 363. 1967; Moldenke, *Phytologia* 29: 199. 1974.

Cooke (1908) says "Plant collected by Polydore Roux near Bombay (fide Steudel). The species depends altogether on the description by Steudel, who may or may not have had Roux's specimens. Koernicke states....that he has seen no specimens of the plant and considers the species a very doubtful one which may have been described under another name, but, curiously enough, he has made a variety to this doubtful species in *Miq. Ann. Mus. Lugd. Bat.* v. 3 (1867) p. 239, which he names var. *nigricans*, a Java plant, which he fully describes. Ruhland....copies Koernicke's description of the Java plant (var. *nigricans*), and assigns it to *E. heterolepis* as a typical description of that species."

*ERIOCAULON HETEROLEPIS* var. *NIGRICANS* Körn.

Additional bibliography: Cooke, *Fl. Presid. Bombay*, ed. 1, 2:



851 (1908), ed. 2, imp. 1, 3: 363 (1958), and ed. 2, imp. 2, 3: 363. 1967; Moldenke, *Phytologia* 29: 199. 1974.

The Kuntze 5686, cited below, was previously erroneously cited by me as E. hookerianum Stapf. Kuntze encountered it at 5800 feet altitude, flowering and fruiting in August.

Additional citations: GREATER SUNDA ISLANDS: Java: Kuntze 5686 (N).

#### ERIOCAULON HETEROPELON Alv. Silv.

Additional bibliography: Fedde & Schust. in Just, *Bot. Jahresber.* 46 (2): 3. 1924; Moldenke, *Phytologia* 26: 25. 1973.

#### ERIOCAULON HETEROPETALUM Ruhl.

Additional bibliography: Moldenke, *Phytologia* 24: 463--464. 1972; León & Alain, *Fl. Cuba*, imp. 2, 1: 281 & 423. 1974.

#### ERIOCAULON HOOKERIANUM Stapf

Additional bibliography: Moldenke, *Phytologia* 29: 200 (1974) and 31: 389 & 390. 1975.

Andrew describes this plant as an "erect grasslike herb 15 cm. tall, the leaves and stems light-green, the flower-heads white".

The Kuntze 5686, cited by me as E. hookerianum in a previous installment of these notes, proves actually to be E. heterolepis var. nigricans Körn.

Additional citations: INDIA: Uttar Pradesh: Shivaraman 2 (Z). GREATER SUNDA ISLANDS: Papua: Andrew LAE.57132 (Mu).

#### ERIOCAULON HUMBOLDTII Kunth

Additional bibliography: J. A. Steyerl., *Biotropica* 6: 7 & 10. 1974; Moldenke, *Phytologia* 29: 200 (1974) and 30: 57. 1975.

Ruiz-Terán & López-Palacios describe this plant as an "Hierba morichalera, con rósula de 40--50 cm. de largo. Hojas de unos 40 cm. de largo. Escapos de 60--80 cm., cilíndricos, verde intensos [or] claros a verde amarillentos, lucientes, glabros, l-céfalos. Capítulos terminales, subglobosos o hemisféricos, de ± 10 mm. de diámetro. Flores blancas a blanco grisáceas."

Additional citations: VENEZUELA: Bolívar: Ruiz-Terán & López-Palacios 11160 (Ld, Mi). BRAZIL: Roraima: Ruiz-Terán & López-Palacios 11056 (Tu).

#### ERIOCAULON HUMILE Moldenke

Additional bibliography: Moldenke, *Phytologia* 24: 465. 1972.

Material of this species has been misidentified and distributed in some herbaria as E. hamiltonianum Mart.

Additional citations: INDIA: Maharashtra: Vartak RD.16 (Ld), RD.30 (Ac).

#### ERIOCAULON INFIRMUM Steud.

Additional bibliography: Hartley, Dunstone, Fitzgerald, Johns, & Lamberton, *Lloydia* 36: 235. 1973; Farnsworth, *Pharmacog.*

Titles 9 (1): x. 1974; Moldenke, *Phytologia* 29: 200 & 231 (1974)

and 31: 389. 1975.

The Santapau 9611 & 9630, previously cited by me as E. infirmum, seem better placed as E. quinquangulare L.

ERIOCAULON INFIRMUM var. PUBERULENTUM (Moldenke) Van Royen

Additional bibliography: Hartley, Dunstone, Fitzgerald, Johns, & Lamberton, Lloydia 36: 235. 1973; Moldenke, Phytologia 24: 466. 1972.

Hartley & his associates (1973) found this plant growing on open springy banks and cite their no. 10393 from New Guinea. Croft and his associates describe it as an erect herb, 10 cm. tall, the leaves semiglossy mid-green, and the flowers white, and encountered it in saturated swamp margins at 2100 m. altitude, flowering in December.

Additional citations: NEW GUINEA: Papua: Croft & al. LAE.60807 (Mu, W--2740755).

ERIOCAULON INSULARE Ruhl.

Additional bibliography: Moldenke, Phytologia 24: 466. 1972; León & Alain, Fl. Cuba, imp. 2, 1: 281 & 423. 1974.

ERIOCAULON INTRUSUM Meikle

Additional bibliography: Moldenke, Phytologia 26: 459. 1973; Heslop-Harrison, Ind. Kew. Suppl. 15: 51. 1974.

ERIOCAULON IRREGULARE Meikle

Additional bibliography: Moldenke, Phytologia 26: 459. 1973; Heslop-Harrison, Ind. Kew. Suppl. 15: 51. 1974.

ERIOCAULON JAUENSE Moldenke

Additional & emended bibliography: Anon., Ind. Bot. Guay. Highl. 8. 1972; Moldenke in Steyer., Maguire, & al., Mem. N. Y. Bot. Gard. 23: 849--852, fig. 5. 1972; Moldenke, Phytologia 29: 201. 1974.

ERIOCAULON JOHNSTONII Ruhl.

Synonymy: Eriocaulou johnstoui Lorence, in herb.

Additional bibliography: Moldenke, Phytologia 29: 201 (1974) and 30: 339. 1975.

Lorence describes this plant as a semi-aquatic herb growing in gravelly beds of small streams, the roots and sometimes also the leaves submerged in the water, the leaves shiny-green, and the inflorescence waxy grayish-white. He refers to it as common in upland marshes and along streams, at 2000 feet altitude, in an area of 175 inches of rainfall per year. He found it in flower and fruit in December.

Additional citations: MASCARENE ISLANDS: Mauritius: Lorence M.33 (Mu, Z).

ERIOCAULON JORDANI (Moldenke) Meikle

Additional bibliography: Moldenke, Phytologia 26: 459. 1973;

Heslop-Harrison, Ind. Kew. Suppl. 15: 51. 1974.

ERIOCAULON KÖRNICKIANUM Van Heurck & Muell.-Arg.

Additional bibliography: Ayensu, Rep. Endang. & Threat. Pl. Spec. 56, 107, 143, & 151. 1974; Moldenke, Phytologia 29: 202. 1974; D. S. & H. B. Correll, Aquat. & Wetland Pl. SW. U. S., imp. 2, 1: 590 (1975) and imp. 2, 2: 1751. 1975.

ERIOCAULON LACUSTRE Ruhl.

Additional bibliography: Moldenke, Phytologia 24: 469. 1972; León & Alain, Fl. Cuba, imp. 2, 1: 281 & 423. 1974.

ERIOCAULON LANCEOLATUM Miq.

Additional bibliography: Woodr., Journ. Bomb. Nat. 13: 429. 1901; Cooke, Fl. Presid. Bombay, ed. 1, 2: 842 & 845 (1908), ed. 2, imp. 1, 3: 354 & 357 (1958), and ed. 2, imp. 2, 3: 354 & 357. 1967; Moldenke, Phytologia 29: 202. 1974.

Cooke (1908) cites only Stocks s.n. and Talbot 2947 from Bombay, India, where, he says, it is "Rare" and flowers in October and November. He gives its overall distribution as only "India (W. Peninsula)".

ERIOCAULON LATIFOLIUM J. E. Sm.

Additional & emended bibliography: Hook. f. & Benth. in Hook., Niger Fl. 547. 1849; Moldenke, Phytologia 29: 202. 1974.

The Dalziel 1112, distributed as E. latifolium, is actually Mesanthemum radicans (Benth.) Körn.

ERIOCAULON LEUCOMELAS Steud.

Additional synonymy: Eriocaulon horsley-konde var. megalocephal Fyson apud Kulkarni & Desai, Journ. Bombay Nat. Hist. Soc. 71: 84, sphalm. 1974.

Additional bibliography: Kulkarni & Desai, Journ. Bombay Nat. Hist. Soc. 71: 82-84. 1974; Moldenke, Phytologia 29: 202 (1974), 30: 77 & 78 (1975), and 31: 397. 1975; Shah, Biol. Abstr. 59: 6329. 1975.

Additional citations: INDIA: Madras: Bembower 536 (Mu).

ERIOCAULON LIGULATUM (Vell.) L. B. Sm.

Additional synonymy: Paepalanthus kunthii Körn. ex Moldenke, Phytologia 30: 258, in textu. 1975.

Additional bibliography: Moldenke, Phytologia 29: 203 & 206 (1974), 30: 81, 256, & 258 (1975), and 31: 404. 1975.

Emygdio and his associates describe the plant as having "flores verdosas", but the heads are really very immature on their specimen. Malme (1901) cites Mosén 767 from "in stagnis" in Minas Gerais, Brazil. His work is sometimes erroneously cited as published in "1903".

Additional citations: BRAZIL: Minas Gerais: Emygdio, Duarte, Becker, & Silva Santos 3678 (N).

## ERIOCAULON LINEARE Small

Additional bibliography: Anon., Biol. Abstr. 58 (7): B.A.S.I.C. E.222. 1974; Moldenke, Biol. Abstr. 58: 3844. 1974; Moldenke, Phytologia 29: 283—284 & 287. 1974.

Additional citations: ALABAMA: Covington Co.: R. Kral 36821 (Mu).

## ERIOCAULON LINEARIFOLIUM Körn.

Additional bibliography: Moldenke, Phytologia 29: 204. 1974.

Hatschbach has collected this plant in flower and fruit in July.

Additional citations: BRAZIL: Goiás: Hatschbach 34577 (Ld).

## ERIOCAULON LONGICUSPE Hook. f.

Additional bibliography: Moldenke, Phytologia 29: 205. 1974.

The United States National Herbarium specimen of our Ceylonese collection of this plant exhibits very small basal leaves — they are only about 1 cm. long and 2 mm. wide and are recurved.

The Vartak RD.13, distributed as E. longicuspe, seems to be E. ritchieanum Ruhl. instead.

Additional & emended citations: SRI LANKA: Moldenke, Moldenke, Jayasuriya, & Sumithraarachchi 28301 (W—2765393); Sumithraarachchi & Waas DBS.300 (Z); L. C. Wheeler 12176 (Z)

## ERIOCAULON LONGICUSPE var. ZEYLANICUM Moldenke, Phytologia 31: 26. 1975.

Bibliography: Moldenke, Phytologia 31: 26. 1975.

Citations: SRI LANKA: Jayasuriya 1520 (Z—type).

## ERIOCAULON LUZULAEFOLIUM Mart.

Additional & emended bibliography: Woodr., Journ. Bomb. Nat. 13: 429. 1901; Cooke, Fl. Presid. Bombay, ed. 1, 2: 842 & 848. 1908; Dunn & Tutcher, Kew Bull. Misc. Inf. Addit. Ser. 10: 292. 1912; Cooke, Fl. Presid. Bombay, ed. 2, imp. 1, 3: 354 & 360. 1958; Prain, Bengal Fl., imp. 2, 2: 848, 849, & 985. 1963; Cooke, Fl. Presid. Bombay, ed. 2, imp. 2, 3: 354 & 360. 1967; Moldenke, Phytologia 29: 205—206 & 221. 1974.

Emended illustrations: Schnitzl., Iconogr. 1: pl. 46, fig. 2 & 5. 1845.

Cooke (1908) cites only Stocks s.n. from Bombay, India, and gives the overall distribution of the species as "Throughout India; Ceylon".

## ERIOCAULON MAGNUM Abbiatti

Additional bibliography: Moldenke, Phytologia 29: 207 (1974) and 30: 256. 1975.

Additional citations: ARGENTINA: Corrientes: Krapovickas, Cristóbal, Schinini, Arbo, Quarín, & González 26268 (Ld).

## ERIOCAULON MALAISSEI Moldenke

Additional bibliography: Heslop-Harrison, Ind. Kew. Suppl. 15:

51. 1974; Leith, Phenol. & Season. Model 439. 1974; Moldenke, Phytologia 29: 284. 1974.

ERIOCAULON MANFEENSE Meikle

Additional bibliography: Moldenke, Phytologia 26: 460. 1973; Heslop-Harrison, Ind. Kew. Suppl. 15: 51. 1974.

ERIOCAULON MELANOCEPHALUM Kunth

Additional bibliography: León & Alain, Fl. Cuba, imp. 2, 1: 281 & 423. 1974; Moldenke, Biol. Abstr. 58: 3844. 1974; Moldenke, Phytologia 29: 284 (1974), 30: 35 (1975), and 31: 397. 1975.

Killip found this plant growing in a lagoon near sealevel, flowering and fruiting in October. He misidentified it as var. longipes Griseb. because the United States National Herbarium sheet of C. Wright 3240 was mis-labeled "3241", the type collection of the variety. The plant on the sheet is definitely the short-pedunculate form and therefore belongs to Wright's 3240 collection.

Additional citations: CUBA: Pinar del Río: Killip 32380 (W--1712989); C. Wright 3240 (W--46422).

ERIOCAULON MELANOCEPHALUM var. LONGIPES Griseb.

Synonymy: Eriocaulon melanocephalum var. longipes Moldenke, Biol. Abstr. 58: 3844, sphalm. 1974.

Additional bibliography: Moldenke, Biol. Abstr. 58: 3844. 1974; Moldenke, Phytologia 29: 284 (1974) and 31: 397. 1975.

It is very probable that this taxon should be reduced to form status, since it probably occurs only when the water level rises beyond the normal.

The Killip 32380, distributed as this variety, actually represents the typical E. melanocephalum Kunth.

ERIOCAULON MICROCEPHALUM H.B.K.

Additional bibliography: Soukup, Biota 2: 301. 1959; Moldenke, Phytologia 29: 208 (1974) and 30: 26, 31, 76, & 118. 1975.

Recent collectors have found this plant growing in springy places at altitudes of 2100--6650 meters, flowering and fruiting (in addition to months previously reported in these notes) in April. Cleef describes it as a "planta arrossetada" or "hierba pequeña, arrossetada, flores blancas" and encountered it in "vegetación paramuna muy húmeda...con Carex jamesonii, Valeriana cf. plantaginea, Alchemilla paludicola y Breutelia, asociados con rastrojo de Senecio reissianus", "pantano con Chusquea, Werneria articulata y Sphagnum spp.", "turbera...con rastrojo de Senecio flos-fragrans, asociado con Pleurozium schreberi", "turbera.... con muchos briófitos, Senecio flos-fragrans, Puya goudotiana, Geranium y Calamagrostis effusa", and "vertiente paramuno, poco húmedo con Calamagrostis effusus, Espeletia grandiflora, Hypericum sp. y briófitos".

Schaffner 226 is a mixture with E. ehrenbergianum Klotzsch.

The Standley & Valerio 43637 & 43830, Taylor & Taylor 11738, and Williams, Jiménez M., & Williams 24472, distributed as E. microcephalum, are actually Paepalanthus kupperi Suesseng.

Additional citations: MEXICO: Hidalgo: H. E. Moore Jr. 2800 (W--1945879), 3334 (W--1945933). México: Pringle 6114 (W--251782, W--937183), 7361 (W--1638161), 13228 (W--461824); Rose & Painter 7929 (W--451547); Schaffner 226, in part (W--397194). COLOMBIA: Cundinamarca: Cleef 3197 (Ut--316660), 4111 (Ut--316657), 5198 (Ld), 8311 (Ut--316642); Cleef & Jaramillo M. 3076 (Ut--316663).

ERIOCAULON MINIMUM Lam., Encycl. Méth. Bot. 3: 275. 1789.

Additional bibliography: Lam., Encycl. Méth. Bot. 3: 275. 1789; Moldenke, Phytologia 29: 208, 231, 235, & 236. 1974.

Lamarck (1789) describes this plant as "Eriocaulon culmis setaceis, foliis ensiformibus, capitulo minimo subgloboso". He continues: "An Eriocaulon sexangulare. Burm. Fl. Ind. t. 9. f. 4. Je ne trouve pas dans les angles des tiges, autant de ressource que Linné, pour distinguer les espèces de ce genre; en effet, dans presque toutes, les angles dont il s'agit sont peu élevés, & en outre séparés par des cappelures, de manière qu'il est difficile d'en bien distinguer le nombre.

"L'espèce dont je traite ici est fort petite, ne s'élève qu'à un pouce & demi de hauteur, & me paroît assez bien rendue dans la figure citée de M. Burman; mais je doute que ce soit Eriocaulon sexangulare de Linné, car il dit dans son Flora Zeylanica (p. 20. no. 49.), que les folioles de son calice commun sont orbiculées, ce qui n'est pas vrai pour cette espèce.

"Sa racine, qui est fibreuse, pousse des feuilles étroites, ensiformes, graminées, concaves en dessus, & à peine longues d'un pouce. Les tiges sont sétacées, n'ont qu'un pouce & demi ou rarement deux pouces de longueur, viennent en faisceau, & sont enveloppées chacune à leur base par une feuille coutré & vaginale. Les têtes de fleurs sont fort petites, comme globuleuses, glabres, & ont un calice commun d'environ sept folioles oblongues, ovales & obtuses. Cette petite plante croît dans l'Indie, & m'a été communiquée par M. Sonnerat". He calls the plant, in French, "joncinelle naine".

Sumithraarachchi and his associates found this plant growing along roadside streams and at the edge of a waterfall and describe the flower-heads as gray or brownish and the plants 3--4 inches tall. They found it in flower and fruit in March and April.

Additional citations: SRI LANKA: Sumithraarachchi & Jayasuriya DBS.204 (Z), DBS.298 (Ld).

ERIOCAULON MINUTISSIMUM Ruhl.

Additional bibliography: Moldenke, Phytologia 24: 478. 1972; León & Alain, Fl. Cuba, imp. 2, 1: 280 & 423. 1974.

ERIOCAULON MINUTUM Hook. f.

Additional bibliography: Woodr., Journ. Bomb. Nat. 13: 429.

1901; Cooke, Fl. Presid. Bombay, ed. 1, 2: 842 & 846—847 (1908), ed. 2, imp. 1, 3: 354 & 359 (1958), and ed. 2, 3: 354 & 359. 1967; Moldenke, Phytologia 29: 208--209. 1974.

Cooke (1908) cites only Stocks s.n. from Bombay, India, where he says the species is "Rare" and gives the overall distribution as "India (W. Peninsula)".

The Vartak RD.16, distributed as E. minutum, appears actually to be E. humile Moldenke.

#### ERIOCAULON MISERRIMUM Ruhl.

Additional bibliography: Moldenke, Phytologia 24: 478--479. 1972; León & Alain, Fl. Cuba, imp. 2, 1: 280 & 423. 1974.

#### ERIOCAULON MISSIONUM Castell.

Additional bibliography: Moldenke, Phytologia 24: 479. 1972; Hocking, Excerpt. Fot. A.21: 211. 1973.

#### ERIOCAULON MODESTUM Kunth

Additional bibliography: Körn. in Warm., Vidensk. Meddel. Naturh. Foren. Kjöbenh. 23: 316. 1871; Moldenke, Phytologia 29: 209 & 289 (1974) and 30: 323. 1975.

Körn. (1871) cites several unnumbered Warming specimens as follows: "In lacu Lagoa Santa, et in udis ripae et in lacu ipso abundans Febr., Aprili, Majo, Novembri (Wrmg.). In solo minus aquoso folia breviora, in aqua ipsa longiora fluitantia evadunt (Wrmg.)." He describes these new collections as "In specimine quodam perigonii masculi exterioris partes (semper vel cito?) ima basi excepta liberae. In flosculo masculino aliquo perigonii interioris partes 4, tria minora; stamina 7; octavum enim quarto petalo oppositum deest."

Malme (1901), whose work is sometimes erroneously cited as "1903", cites Malme 244 from Rio Grande do Sul and Mosén 1058 & 1059 from Minas Gerais, Brazil. He encountered the plant in swamps in association with Xyris macrocephala Vahl. Mosén found it "In ripa interdum inundatata".

#### ERIOCAULON MODESTUM var. BREVIFOLIUM Moldenke

Additional bibliography: Moldenke, Phytologia 29: 209. 1974.

In view of Warming's comments, quoted directly above, based on firsthand observation in the wild, it is probable that this taxon should be reduced to form status.

Additional citations: BRAZIL: Distrito Federal: Irwin, Souza, & Reis dos Santos 11677 (W--2759066). Goiás: Irwin, Grear, Souza, & Reis dos Santos 13498 (W--2759067).

#### ERIOCAULON MOLINAE L. O. Williams

Additional bibliography: Moldenke, Phytologia 25: 126. 1973; Heslop-Harrison, Ind. Kew. Suppl. 15: 51. 1974; Molina R., Ceiba 19: 24. 1975.

Additional citations: HONDURAS: Morazán: Williams & Correll 29289, in part (W--2566500).

*ERIOCAULON MONTANUM* Van Royen

Additional bibliography: Hartley, Dunstone, Fitzgerald, Johns, & Lamberton, *Lloydia* 36: 226 & 235. 1973; Farnsworth, *Pharmacog.* Titles 9 (1): x. 1974; Moldenke, *Phytologia* 29: 210. 1974.

Hartley and his associates (1973) found this plant "Forming cushions in secondary alpine meadows" and cite their no. 11259 from New Guinea. Croft and his associates describe it as a "cushion plant, leaves glossy mid-green, flowers white, fruit brownish" and encountered it in alpine grassland peat bogs, at 3300 m. altitude, flowering and fruiting in December.

Additional citations: NEW GUINEA: Papua: Croft & al. LAE.60671 (Mu, W--2740738).

*ERIOCAULON NANUM* R. Br.

Additional bibliography: Moldenke, *Phytologia* 24: 482. 1972.

Parker describes this plant as an herb to 4 cm. tall, growing in clumps, and found it in moist disturbed sand areas, flowering and fruiting in July.

Additional citations: AUSTRALIA: Northern Territory: M. Parker 134 (Ld).

*ERIOCAULON NEGLECTUM* Ruhl.

Additional bibliography: Moldenke, *Phytologia* 29: 211 (1974), 30: 37 (1975), and 31: 384. 1975.

*ERIOCAULON NEPALENSE* Prescott

Additional bibliography: Collett, *Fl. Siml.* 549 & 550. 1902; Moldenke, *Phytologia* 29: 211. 1974.

Collett (1902) gives the overall distribution of this species as "Kangra to Sikkim, 4000--6000 ft.", says that it blooms from August to October, and cites it from Khasia.

*ERIOCAULON NILAGIRENSE* Steud.

Additional bibliography: Shetty & Vivekanathan, *Bull. Bot. Surv. India* 13: 23 & 40. 1971; Moldenke, *Phytologia* 29: 284 (1974) and 31: 389. 1975.

Shetty & Vivekanathan (1971) refer to this plant as "common in marshy places in grassland", at 2575 meters altitude, flowering in November, and cite their no. 26528.

Additional citations: SRI LANKA: Moldenke, Moldenke, Jayasuriya, & Sumithraarachchi 28269 (W--2765417), 28270 (W--2765416), 28273, in part (W--2765376), 28274 (W--2765375).

*ERIOCAULON NILAGIRENSE* f. *PARVIFOLIUM* Moldenke

Additional bibliography: Moldenke, *Phytologia* 29: 212 (1974) and 31: 389. 1975.

Stone encountered this plant in "very moist grass-obscured rivulets in patanas in open patches of disturbed ericaceous forest", on the Horton Plains, at 2350 meters altitude, and comments that this is "a large species often embedded in dense mats of a small Panicum sp., occasionally in small open pools, the scapes



green, the flowers grayish-white". This is exactly in the habitat in which my wife and I found the plant in great abundance during our exploration of the Horton Plains. He collected it in flower in April.

Additional citations: INDIA: Uttar Pradesh: Shivaraman 1 (Ac). SRI LANKA: Moldenke, Moldenke, Jayasuriya, & Sumithraarachchi 28275 (W--2765374), 28276 (W--2765373--isotype), 28278 (W--2765388), 28286 (W--2765381), 28298 (W--2765396), 28300 (W--2765394), 28302 (W--2765389); B. C. Stone 11278 (W--2766570).

#### ERIOCAULON NOVOGUINEENSE Van Royen

Additional bibliography: Moldenke, Phytologia 24: 484. 1972; Hartley, Dunstone, Fitzgerald, Johns, & Lamberton, Lloydia 36: 235. 1973; Farnsworth, Pharmacog. Titles 9 (1): x. 1974.

Hartley and his associates (1973) found this plant "Forming cushions in secondary alpine meadows" and cite their no. 12998 from New Guinea.

#### ERIOCAULON ODORATUM Dalz.

Additional bibliography: Woodr., Journ. Bomb. Nat. 13: 429. 1901; Cooke, Fl. Presid. Bombay, ed. 1, 2: 842 & 844 (1908), ed. 2, imp. 1, 3: 353 & 355--356 (1958), and ed. 2, imp. 2, 3: 353 & 355--356. 1967; Moldenke, Phytologia 29: 213 & 238. 1974.

Cooke (1908) cites Dalzell s.n., Stock s.n., Talbot 1837, 2948, & 2949, and Woodrow s.n. from Bombay, where, he says, it flowers in September. He gives its overall distribution as "India (W. Peninsula)" and comments that "The plant is described by Dalzell as smelling strongly of chamomile."

#### ERIOCAULON OLIVACEUM Moldenke

Additional bibliography: Moldenke, Phytologia 24: 485. 1972; León & Alain, Fl. Cuba, imp. 2, 1: 280 & 423. 1974.

#### ERIOCAULON OLIVERI Fyson

Additional bibliography: Moldenke, Phytologia 24: 485 (1972) and 31: 389. 1975.

Additional citations: INDIA: Uttar Pradesh: Shivaraman 3 (Z).

#### ERIOCAULON OREADUM Van Royen

Additional bibliography: Moldenke, Phytologia 24: 485. 1972; Hocking, Excerpt. Bot. A.21: 211. 1973.

Henty describes this plant as an herb, 8 cm. tall, with brownish heads, and found it growing on low mounds in savannas with Melaleuca, flowering in June.

Citations: NEW GUINEA: Papua: Henty N.G.F.49668 (Mu, Z).

#### ERIOCAULON ORYZETORUM Mart.

Additional & amended bibliography: Collett, Fl. Siml. 549 & 550. 1902; Prain, Bengal Pl., imp. 2, 2: 848 & 985. 1963; Moldenke, Phytologia 29: 213. 1974.

Collett (1902) gives the overall distribution of this species

as "Garhwal to Sikkim, below 6000 feet" and the time of flowering as August to October.

ERIOCAULON OVOIDEUM Britton & Small

Synonymy: Eriocaulon ovoideum Britton & Small ex Alain, Contrib. Ocas. Mus. Hist. Nat. Coleg. La Salle 7: 47, sphalm. 1946.

Additional bibliography: León & Alain, Fl. Cuba, imp. 2, 1: 280 & 423. 1974; Moldenke, Phytologia 29: 213. 1974.

Recent collectors have encountered this plant in white siliceous sand on white sand savannas, flowering and fruiting in February and April. Killip 44059 is a mixture with E. sclerocephalum Ruhl.

Additional citations: CUBA: Oriente: León & Seifritz 17496 (W-1784920). ISLA DE PINOS: Killip 44059, in part (W--2176133).

ERIOCAULON PALMERI Ruhl.

Additional bibliography: Moldenke, Phytologia 24: 487. 1972.

Additional citations: MEXICO: Durango: Edw. Palmer 172 (W--1689154--isotype).

ERIOCAULON PANAMENSE Moldenke

Additional citations: Moldenke, Phytologia 24: 487. 1972.

Recent collectors have encountered this plant on plateaus and in marshes, at altitudes of 1000--1500 meters, flowering in February and May, and fruiting in February. They describe it as 3--6 inches tall, the flowers white.

Additional citations: PANAMA: Chiriquí: Corrman 2678 (W--1823466); Davidson 657 (W--1766806).

ERIOCAULON PANCHERI H. Lecomte ex Guillaum. & Beauvis., Ann. Soc. Bot. Lyon 38: 114. 1914.

Additional bibliography: Guillaum. & Beauvis., Ann. Soc. Bot. Lyon 38: 114. 1914; Guillaum. & Beauvis., Sp. Montrouz. 40. 1914; Moldenke, Phytologia 24: 487. 1972; Heslop-Harrison, Ind. Kew. Suppl. 15: 51. 1974.

ERIOCAULON PARAGUAYENSE Körn.

Additional bibliography: Moldenke, Phytologia 29: 213. 1974.

Malme (1901), whose work is sometimes erroneously cited as "1903", cites Malme 1456b from "Loco aperto, uliginoso, graminoso" in Mato Grosso, Brazil.

ERIOCAULON PARKERI B. L. Robinson

Additional bibliography: Moldenke, Biol. Abstr. 58: 3844. 1974; Moldenke, Phytologia 29: 213--214 & 216. 1974.

ERIOCAULON PELLUCIDUM Michx.

Additional bibliography: Michx., Fl. Bor.-Am., ed. 1, imp. 1, 2: 166 (1803) and ed. 2, 2: 166. 1820; A. St.-Hil., Voy. Distr. Diam. 1: 393. 1833; A. St.-Hil., Linnaea 16: Litt. 188. 1842; Paine, Ann. Rep. Univ. N. Y. 18: [Fl. Oneida Co.] 146. 1865;

Rand & Redfield, Fl. Mt. Desert 162. 1894; Collett, Fl. Siml. 549. 1902; Gibbs, Chemotax. Flow. Pl. 3: 1883. 1974; Michx., Fl. Bor.-Am., ed. 1, imp. 2, 2 [Ewan, Class. Bot. Am. 3]: 166. 1974; Moldenke, Biol. Abstr. 58: 3844. 1974; Moldenke, Phytologia 29: 284 (1974) and 31: 376, 1975; D. S. & H. B. Correll, Aquat. & Wetland Pl. S.W. U. S., imp. 2, 1: 592 (1975) and imp. 2, 2: 1751. 1975.

Gibbs (1974) reports tannin present in what he calls E. septangulare, but cyanogenesis, leucoanthocyanin, and mucilage absent. Whether he is referring here to E. pellucidum or to E. aquaticum (J. Hill) Druce is not clear, but presumably it is to this commoner of the two species.

Additional citations: NEW JERSEY: Ocean Co.: Moldenke & Moldenke 28550 (E, Gz, Mi, Sl, W, Ws).

#### ERIOCAULON PERUVIANUM Ruhl.

Additional bibliography: Soukup, Biota 2: 301. 1959; Moldenke, Phytologia 24: 491. 1972.

#### ERIOCAULON PINARENSE Ruhl.

Additional bibliography: Moldenke, Phytologia 24: 492. 1972; León & Alain, Fl. Cuba, imp. 2, 1: 281 & 423. 1974.

Material of this species has been misidentified and distributed in some herbaria under the name, E. scirpoides Griseb.

Additional citations: ISLA DE PINOS: Britton, Britton, & Wilson 15008 (W-793245, W-1049199).

#### ERIOCAULON PRINGLEI S. Wats.

Additional bibliography: Moldenke, Phytologia 24: 493. 1972. Pringle found this plant growing in wet places on plains, flowering in October.

Additional citations: MEXICO: Chihuahua: Pringle 2018 (W-45284-isotype, W-937184-isotype).

#### ERIOCAULON PSEUDOCOMPRESSUM Ruhl.

Additional bibliography: León & Alain, Fl. Cuba, imp. 2, 1: 280 & 423. 1974; Moldenke, Phytologia 29: 284. 1974.

This plant has been encountered in the Eleocharis belt around lagoons near sealevel, flowering and fruiting in December. The Marie-Victorin 58316, distributed as E. pseudocompressum, actually is Paepalanthus pungens var. brevifolius Moldenke,

Additional citations: CUBA: Pinar del Río: Ekman 11221 (W-1301977); Killip 32372 (W-1712982).

#### ERIOCAULON PYGMAEUM Soland.

Additional bibliography: Heslop-Harrison, Ind. Kew. Suppl. 15: 52. 1974; Moldenke, Phytologia 29: 220 (1974) and 32: 468. 1975.

Latz describes this plant as an "erect ephemeral with whitish heads, locally common in damp sand in bed of river near waterhole" and found it in flower and fruit in February. He comments that "ex description, some male sepals are united". In habit it strongly reminds one of the dwarf forms of E. cinereum R. Br. as

well as E. humile Moldenke of India.

Additional citations: AUSTRALIA: Northern Territory: Latz 2203 [Herb. North. Terr. 34447] (Z), 2227 (Ld).

"ERIOCAULON QUINQUANGULARE" Bojer, Hort. Maurit. 361. 1837.

Bibliography: Bojer, Hort. Maurit. 361. 1837; Jacks. in Hook. f., Ind. Kew., imp. 1, 1: 879 (1893), imp. 2, 1: 879 (1946), and imp. 3, 1: 879. 1960; Punt, Reg. Veget. 36: 9. 1964; Moldenke, Phytologia 18: 429 & 433. 1969; Anon., Taxon 24: 173. 1975.

Jackson (1893) avers that this binomial belongs in the synonymy of Paepalanthus repens (Lam.) Körn., a species native to Hispaniola and erroneously attributed to Mauritius by Lamarck and most subsequent authors.

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